

# APPENDIX A

**Non-Exhaustive Overlapping Willfulness Evidence**

<b>Google Knew Sun Claimed Copyright in the Java API Packages</b>		
<b>Evidence</b>	<b>Description</b>	<b>Date</b>
Trial Tr. 982:25-983:12	Bob Lee, former Google Core Library Lead for Android, testified at trial that he: (1) consulted Java docs when implementing APIs for Android; and (2) observed copyright notices on those documents.	
Trial Tr. 951:8-12, 953:4-9	<p>Brian Swetland, senior staff software engineer for Google, testified that he knew, while working for Android, that Sun claimed copyrights on its method signatures:</p> <p>“Q. You were aware [between 2000 and 2004] that Sun’s position was that the method signatures, the specifications, method signatures were copyrighted, correct?</p> <p>A. I do recall mention that Sun claimed copyright on the method signatures.</p> <p>...</p> <p>Q. Nothing had changed between the time you were at Danger and the time you were at Android, correct?</p> <p>A. Nothing about since -- very, very broad.</p> <p>Q. Your knowledge about what Sun claimed about it’s copyright and the method signature had not changed?</p> <p>A. That is correct.”</p>	
GOOGLE-01-00018470 – GOOGLE-01-00018471 (TX 18)	Andy Rubin, then-SVP of Google in charge of Android, wrote an email stating that “Java.lang apis are copyrighted” and that since “[S]un . . . own[s] the brand and ip[,]” “[S]un gets to say who they license the tck to[.]”	March 24, 2006
GOOGLE-23-00000001 - GOOGLE-23-00000027	In an internal Google document rehearsing the “Mobile + Android” narrative, Google anticipated that it would be asked whether “Android’s Dalvik VM violate[s] Java’s IP restrictions,” and had no answer to that question.	March 6, 2008
GOOGLE-12-00078801	Alan Donovan, software developer at Google, wrote an internal email to java-users@google.com explaining how to turn off “Sun proprietary API” warnings issued by the Java compiler.	April 9, 2008
GOOGLE-02-00046845 (TX 234)	Dan Bornstein, then-technical lead for the Android Dalvik virtual machine and core libraries, emailed that “Bob is right: We don’t ‘own’ the java.* API and so can’t go around altering it.”	April 1 – April 6, 2009

<b>Google Knew Throughout That it Needed a License to Use the Copyrighted Materials</b>		
<b>Evidence</b>	<b>Description</b>	<b>Date</b>
OAGOOOGLE0100031329 – OAGOOOGLE0100031333	Andy Rubin, as CEO of Danger, signed a confidential disclosure agreement with Sun relating to possible licensing of Java Technology by Danger from Sun.	October 19, 2001
OAGOOOGLE0100036648 – OAGOOOGLE0100036679	Andy Rubin, as CEO of Danger, helped negotiate a license with Sun to allow Danger to do a clean room implementation of Java ME.	August 26, 2003

Trial Tr. 970:21-971:6	<p>Brian Swetland, senior staff software engineer for Google, knew that Danger had taken a license from Sun for use of Java's method signatures:</p> <p>"Q. . . . [Y]ou did know that Danger took a license from Sun . . . correct?</p> <p>A. Correct.</p> <p>Q. And you knew that the reason that Sun gave for why Danger was required to take a license was that Sun held a license on the method signatures, a copyright on the method signatures, correct?</p> <p>A. Well, I heard that from Andy[.]"</p>	
GOOGLE-26-00031474 – GOOGLE-26-00031497 (TX 22)	Internal Google PowerPoint presentation, with talking points for Andy Rubin, stated that even if Sun and Google could not agree to a co-development partnership, Google would still have to take a license from Sun for Android's use of Java, and complained that such a license would "put[] Sun in a position of control."	April 24, 2005
GOOGLE-00-00001772 – GOOGLE-00-00001781 (TX 1)	An internal Google presentation entitled "Android GPS: Key strategic decisions around Open Source" concluded that Google "[m]ust take [a] license from Sun" and proposed that "Google/Android, with support from Tim Lindholm, [would] negotiate[] the first OSS J2ME JVM license with Sun."	July 26, 2005
GOOGLE-12-00000472 – GOOGLE-12-00000476 (TX 3)	Andy Rubin sent an email attaching a document summarizing internal Google discussions relating to licensing Java from Sun. The document states that "Google would like to work with Sun to conceive of and agree to a license that enables Google to release to the Open Source community, under a license of it's [sic] own choosing, it's [sic] internally developed CLDC based JVM." The document further states that "Google needs a TCK license."	July 29, 2005
GOOGLE-01-00019527 – GOOGLE-01-00019528 (TX 7)	Andy Rubin sent an email to Larry Page proposing that Google "take a license [from Sun for Java] . . . . We'll pay Sun for the license and the TCK." The email further stated that "[i]f Sun doesn't want to work with us, we have two options: 1) Abandon our work . . . – or – 2) Do Java anyway and defend our decision, perhaps making enemies along the way[.]"	October 11, 2005
GOOGLE-01-00017143 – GOOGLE-01-00017144 (TX 125)	Tim Lindholm sent an email to Andy Rubin stating that "perhaps the key exercise [with Sun] probably remains trying to find an enforceable license that requires compatibility but otherwise does not impose cost or onerous conditions on distribution and use[.]"	October 25 – October 26, 2005
GOOGLE-02-00077799 (TX 12)	Andy Rubin wrote an email to other Google employees recommending that "either a) we'll partner with Sun as contemplated in our recent discussions or b) we'll take a license."	December 20, 2005
GOOGLE-12-00006964 (TX 17)	Tim Lindholm wrote an email to another Google employee, copying Andy Rubin, stating that he had recently been "helping negotiate with my old team at Sun for a critical license."	February 10, 2006
GOOGLE-01-00062071 –	Vineet Gupta of Oracle and Andy Rubin of Google exchanged	March 16,

GOOGLE-01-00062088 (TX 201); OAGOOOGLE0100168441 – OAGOOOGLE0100168459 (TX 618); OAGOOOGLE0100168460 – OAGOOOGLE0100168478 (TX 619); GOOGLE-01-00065669 (TX 206); GOOGLE-01-00056539 – GOOGLE-01-00056557 (TX 196); GOOGLE-01-00065722 – GOOGLE-01-00065723	several emails in an attempt to negotiate between the companies a Collaboration Development and License Agreement.	2006 – April 19, 2006
GOOGLE-01-00081881 (TX 215)	Chris Desalvo, a software engineer at Google, wrote an email to Andy Rubin asking him: “With talks with Sun broken off where does that leave us regarding Java class libraries?”	June 1, 2006
GOOGLE-01-00025523 (TX 157)	Dan Bornstein, technical lead for the Android Dalvik virtual machine and core libraries, wrote an email to the Android engineering team acknowledging that Google’s use of Java was dependent on reaching a deal with Sun: “As for what set of java.* classes we’re aiming for, that’s still somewhat of an open question, the resolution of which will undoubtedly hinge on what happens (or fails to happen) with Sun.”	June 12, 2006
GOOGLE-04-00055098 – GOOGLE-04-00055099 (TX 23)	Brian Swetland, software engineer, sent an internal Google email stating: “we are building a java based system: that decision is final[.]”	August 16, 2006
GOOGLE-01-00025454 – GOOGLE-01-00025457 (TX 154); GOOGLE-14-00018152 – GOOGLE-14-00018157	Andy Rubin learned that Sun was open sourcing Java SE, Java ME, and Java EE under a GNU General Public License, and engaged in an email discussion about how and whether Google could use that license in order to obtain the desired rights to Java. The discussion pointed out that the “GPL license (sun’s license) doesn;t [sic] work for us.”	November 12, 2006
GOOGLE-24-00017719 (TX 33)	Brian Swetland of Google wrote an email to Dan Bornstein, also of Google, copying an Android Engineering email list, explaining with respect to Android: “[T]he fact that we are not likely to run TCKs and unlikely to be able to call it Java is not due to desires on our part, but to legal/contractual hurdles imposed by a certain external entity.”	March 29, 2007
GOOGLE-01-00066909 (TX 207)	Andy Rubin wrote an email to Eric Schmidt stating “I’m done with Sun (tail between my legs, you were right.) They won’t be happy when we release our stuff, but we now have a huge alignment with industry, and they are just beginning.”	May 10-11, 2007
OAGOOOGLE0004781928 – OAGOOOGLE0004781931	Once Google made clear to the public in the second half of 2007 that it was working on a Google phone, Vineet Gupta of Oracle emailed Andy Rubin to ask what Google was planning and to	August 2, 2007

(TX 565)	discuss licensing. Andy Rubin did not respond.	
GOOGLE-27-00002479 (TX 405)	Bob Lee, former Google Core Library Lead for Android, emailed Eric Schmidt, Google's chairman and then CEO, that: "Sun puts field-of-use restrictions in the Java SE TCK licenses which prohibit Java SE implementations from running on anything but a desktop or server. These restrictions prevent Apache Harmony from independently implementing Java SE . . . not to mention Android (though that's water under the bridge at this point)."	May 30, 2008
OAGOOGL0000149295 (TX 530)	In an internal Oracle email, Vineet Gupta of Oracle reported on a recent discussion with executives in which they discussed "a license to Google that enables them to make Dalvik compatible, get the Java Brand – [and] any one downstream that wanted the Brand (and IP protection) would need to come back to Sun for the license as well (I assume TCK)."	October 1, 2008
Trial Tr. 1559:20-23	Eric Schmidt, Google's Chairman and former CEO, testified that in 2009, "Google was sufficiently worried about being sued that it thought about buying all the rights to Java."	2009
GOOGLE-12-00027267 – GOOGLE-12-00027269 (TX 326)	Dave Sobota, a director of corporate development at Google, sent an email to Tim Lindholm, Bob Lee, and others proposing that "Google buys the rights to Java from Sun (patents, copyrights, etc)." The email stated that this proposal was "Good for Google" because "Our Java lawsuits go away." It further stated that a possible bad alternative if Google did <i>not</i> buy the rights to Java would be that "IBM or Oracle buys rights to Java, further locks down the platform or entangles it in more Patents/IP."	February 19, 2009
Trial Tr. 1071:23-1073:9	<p>Leo Cizek, Oracle Account Manager, testified that he discussed Java licensing with Google in April 2009:</p> <p>"Q. After December 2005, did you have any other discussions with anyone from Google regarding Android?</p> <p>A. Yes. In, I think, April of 2009, I had a discussion where the person from Google wanted to discuss Java Standard Edition. But I brought up the subject of Android, and we discussed that, as well.</p> <p>Q. So what was the name of the person whom you spoke to, who worked for Google?</p> <p>A. Martin Buccholz.</p> <p>Q. And what was the reason that you found yourself speaking to Mr. Buccholz?</p> <p>A. Mr. Buccholz had contacted a colleague of mine, indicating that he wanted to discuss with the correct person at Sun the possibility of Google's licensing the source code to Java Standard Edition so that they could get access to a particular type of support. Getting, like, advance notice on security bug fixes.</p> <p>. . .</p> <p>A. When I called Mr. Buccholz -- this was a conference call, by the way -- I had a colleague on that line with me, as well, a</p>	April 2009

	systems engineer from Sun. I explained that Sun would be very interested in looking into the possibility of doing a source license agreement covering Java SE and providing just the type of support that they were requesting. But I said that there would be something that would have to be fixed, first, which is the fact that regarding Android there was no commercial use license; and, as we understood it, Android was shipping an incompatible version of Java, commercially.”	
OAGOOGL0000150908 (TX 531)	Leo Cizek, an Oracle employee, sent an internal email reporting on a conversation in which he informed Martin Buchholz, a Google software engineer, that Google’s use of Java in Android was unacceptable: “I delivered the message that they have only two options: OpenJDK or Commercial Use, which would require compatibility. I also explained that using Java in the context of customer-facing applications is considered by Sun to be commercial use. I also explained that if they choose the commercial use/compatible option, it would have ramifications throughout Google, and I gave Android as an example. Martin replied: ‘The Android group did not use any Java code in developing Dalvik; they only used the Java specifications.’ . . . I replied that Sun’s position is that the spec license agrmts require that any s/w created from them which is for commercial use be compatible.”	April 29, 2009
Trial Tr. 2309:13-2310:11	<p>Safra Catz, Oracle’s CEO, testified as follows regarding discussions with Google:</p> <p>“Q. Well, what did you do, if anything, before bringing this lawsuit against Google?</p> <p>A. We reached out to Google a number of times trying to get this matter resolved with them. We met with them. You know, a number of us met with them at different times.</p> <p>Q. Were you involved in any of those meetings?</p> <p>A. Yeah. I was informed about the other meetings, but I was actually involved with one with Alan Eustace, Andy Rubin’s boss at the time.</p> <p>Q. Can you explain what it was you were trying to accomplish by meeting with Google -- approximately when were these meetings taking place?</p> <p>A. Well, we actually acquired Sun in -- in January of 2010. And so after that the -- the meeting I went to Alan Eustace was almost two years ago now, so June of -- June of 2010 --</p> <p>Q. And what were you trying to accomplish --</p> <p>A. (Continuing) -- May maybe. May, June, something like that.</p> <p>Q. And in these meetings around May, June, 2010, what was it that you were trying to accomplish by meeting with Google?</p> <p>A. Well, we had really two objectives. One was to bring Android on into Java compatibility. That was very, very critical. The other part was to get Android licensed and paying for the intellectual property.”</p>	May/June 2010



Trial Tr. 393:14-22	<p>Thomas Kurian, Oracle EVP for Software Development, testified as follows:</p> <p>“Q. With respect to the second item, Mr. Kurian, Mr. Kurian, what did you say to Google?</p> <p>A. I specifically discussed -- we specifically discussed with Mr. Rubin that the Dalvik implementation and their implementation of Java needed to comply with the Java Standard specifications, which meant you had to implement the class libraries completely and also pass the TCK.</p> <p>Q. Did Google accept that?</p> <p>A. No.”</p>	May, June, or July 2010
GOOGLE-12-10000022 (TX 10)	Tim Lindholm sent an email to Andy Rubin and others stating that “Larry and Sergei [sic]” asked him “to investigate what technical alternatives exist to Java for Android and Chrome.” In the email, Lindholm writes that the alternatives “all suck,” and that Google “need[s] to negotiate a license for Java under the terms we need.”	August 6, 2010

<b>Google Knowingly and Willfully Infringed Because of its Profit Motive and To Secure Its Dominance in the Mobile Search Market</b>		
<b>Evidence</b>	<b>Description</b>	<b>Date</b>
GOOGLE-01-00019529 – GOOGLE-01-00019532 (TX 8)	Rich Miner co-founder of Android and Google employee, wrote an email to Andy Rubin stating: “[i]t is widely believed by that if an open platform is not introduced in the next few years then Microsoft will own the programmable handset platform[.]”	October 12, 2005
GOOGLE-03170012 – GOOGLE-03170225 (TX 3215)	<p>Google Inc.’s Form 10-K for the fiscal year ending December 31, 2005 noted:</p> <ul style="list-style-type: none"> <li>Google’s business model of relying on search engine advertising from browsers used on personal computers was in jeopardy because “[t]he number of people who access the Internet through devices other than personal computers, including mobile telephones . . . , has increased dramatically in the past few years.”</li> <li>“[I]f we are slow to develop products and technologies that are more compatible with non-PC communications devices, we will fail to capture a significant share of an increasingly important portion of the market for online services.”</li> </ul>	December 31, 2005
GOOGLE-02-00111218 (TX 21)	In an internal Google email to Andy Rubin and Steve Horowitz, Dan Bornstein wrote: “We need to provide an alternative to MSFT, and we need to do it in such a way as we don’t fragment 3rd party developers. . . . Java has very little fragmentation, and it’s adoptable. If we play our cards right, we can also leverage not only existing developers, but applications as well.”	April 13, 2006
GOOGLE-24-00147890 - GOOGLE-24-00147969 (TX	<p>An Android PowerPoint presentation, dated November 2006, states:</p> <ul style="list-style-type: none"> <li>“Supporting Java is the best way to harness developers”</li> <li>“[There are] 6M Java developers worldwide.”</li> </ul>	November 2006

387); <i>see also</i> GOOGLE-01-00025575 – GOOGLE-01-00025587 (TX 158); GOOGLE-01-00025375 – GOOGLE-01-00025433 (TX 24)	<ul style="list-style-type: none"> <li>“Strategy: Leverage Java for its existing base of developers.”</li> </ul>	
GOOGLE-00298438 – GOOGLE-00298484 (TX 31)	December 2008 Android presentation discussed the growing mobile market and explained that “the trajectory for mobile search will converge with conventional computer based search.” It further stated: “Why did Google invest in Android? . . . . Don’t get locked out!”	December 2008
GOOGLE-01-00080869 (TX 210)	Vic Gundotra of Google emailed Jonathan Rosenberg of Google and copied Andy Rubin, stating: “Apple is going to make sure only they have a shot at mobile advertising. We need android to win more than ever.”	April 13, 2010
GOOGLE-58-00035115 – GOOGLE-58-00035120 (TX 431)	Jonathan Rosenberg’s assistant forwards a “talking points” slide to Alan Eagle of Google stating that Android is a “critical asset” for the success of Google’s 5 Business Units, each of which is a \$10 billion opportunity for Google.	October 12, 2010
GOOGLE-23-00000049 – GOOGLE-23-00000057 (TX 370)	Internal Google notes from a Mobile Strategy Summit state that “if we miss the ‘mobile window’, we’ll be out of business in 10 years.”	November 4 – 5, 2010

<b>Google Knowingly and Willfully Infringed Because It Had No Viable Technical Alternative</b>		
<b>Evidence</b>	<b>Description</b>	<b>Date</b>
GOOGLE-01-00019527 – GOOGLE-01-00019528 (TX 7)	Andy Rubin sent an email to Larry Page stating that “[i]f Sun doesn’t want to work with us, we have two options: 1) Abandon our work . . . – or – 2) Do Java anyway and defend our decision, perhaps making enemies along the way[.] As you can see, the alternatives are sub-optimal[.]” The email further stated: “Android is building a Java OS. We are making Java central to our solution because a) Java, as a programming language, has some advantages because it’s the #1 choice for mobile development b) There exists documentation and tools c) carriers require managed code d) Java has a suitable security framework[.]”	October 11, 2005
GOOGLE-01-00019511 – GOOGLE-01-00019513 (TX 13)	Brian Swetland of Google wrote an email to Mathias Agopian, also of Google, and copied Andy Rubin, stating that a primarily Java API “simplifies the application development story . . . reduces our development time . . . faster app development and debuggability.” He further stated that Java was better than other technical alternatives, such as “C++, Intercal, etc” because: <ul style="list-style-type: none"> <li>“Java is more accessible [sic] than C++. There are more</li> </ul>	January 2, 2006



	<p>Java programmers. There is more standardization in tools and libraries. Debugging is much simpler (especially for people who are not total rockstars – perhaps a lot of casual developers, etc)”</p> <ul style="list-style-type: none"> <li>• “Java solves a lot of the portability issues C++ has”</li> <li>• “Java does have a big win of being much more compact code than native arm/thumb code.”</li> </ul>	
GOOGLE-01-00081881 (TX 215)	Chris Desalvo, software engineer at Google, wrote an email to Andy Rubin stating: “regarding Java class libraries[,] [o]urs are half-ass at best. We need another half of an ass.”	June 1, 2006
GOOGLE-40-00003728	Kevin Bourrillion, software engineer at Google, wrote a chat message to Bob Lee saying that Android had “take[n] [the] good stuff from java[.]”	November 14, 2007
GOOGLE-12-10000022 (TX 10)	Tim Lindholm sent an email to Andy Rubin and others stating that “Larry and Sergei” asked him “to investigate what technical alternatives exist to Java for Android and Chrome.” In the email, Lindholm writes that the alternatives “all suck.”	August 6, 2010

<b>Google Attempted to Conceal its Use of the Copyrighted Materials for as Long as Possible</b>		
<b>Evidence</b>	<b>Description</b>	<b>Date</b>
GOOGLE-25-00045581	In a November 4, 2007 chat between Jason Chen and Eric Chu, both of Google, Eric Chu wrote: “This Java stuff can be nothing or very serious. I do believe Sun is planning to come after us.” He further wrote: “the only thing we need to scrub for at this stage is references to Java.”	November 4, 2007
GOOGLE-02-00052356 (TX 26)	In an internal Google email, Dan Bornstein directs a team to “[s]crub out a few more ‘j’s” from the Android code.	November 7, 2007
GOOGLE-04-00010230 – GOOGLE-04-00010241 (TX 27)	Andy McFadden, software engineer for Google, reported that his recent activities included: “Remov[ing] various incarnations of the ‘J word’ from the SDK.”	November 12, 2007
GOOGLE-01-00030897 – GOOGLE-01-00030898	Amanda Walker, a Google software engineer, emailed Dan Morrill, also of Google, to ask him not to “publicly compare Android to J2ME or any other technology.” She explained: “As innocent as that seems, unfortunately it’s exactly one of things that it’s vital that we not do. It doesn’t even sound that innocent, actually--at a first guess, the fact that we’re not using a ‘real’ JVM or J2ME at all may dim Sun’s initial euphoria a bit . . . and if Sun decides to take potshots at Android, that would hugely complicate things. . . . I’m planning on just playing dumb and forwarding all questions back to the mother ship :-).”	November 12, 2007
GOOGLE-17-00067104 – GOOGLE-17-00067105 (TX 28)	In an instant message from Dan Morrill to Dan Bornstein, both of Google, Dan Morrill announced his intention to “do a sanity pass over the [Dalvik spec] docs” before they were released, because he would not “be surprised to find legally questionable uses of the j word.”	November 14, 2007
GOOGLE-24-00020259 – GOOGLE-	After learning that a Google employee had stated publicly that Google had its “own APIs [and] a better flavor of Java[.]” Andy	November 16, 2007

24-00020260 (TX 382)	Rubin emailed the PR team to request that “only authorized speakers speak to the press” and emphasized that: “This is really important and a legal issue.”	
GOOGLE-01-00027175 – GOOGLE-01-00027176 (TX 165)	After another Google employee was asked to do a tech interview relating to Android, Rich Miner, co-founder of Android and Google employee, wrote to Andy Rubin and others that he would “prefer to have” himself “or someone else from our team handle these calls if they [are] Android related[.]” He stated that “[t]here is lots of sensitivity around Android and Sun/Java[.]”	November 18, 2007
GOOGLE-01-00082216 (TX 217)	David Burke, an engineering director at Google, described his recent presentation on Android to Andy Rubin, stating: “I was very conscious of the sensitivity around Java and was careful to sidestep any pointed questions in that direction (I definitely never said JVM or ‘the’ Java language, for instance).”	November 21, 2007
GOOGLE-01-00035931 – GOOGLE-01-00035933 (TX 29)	Andy Rubin wrote an internal Google email directing employees at the JavaOne conference booth to “answer direct developer questions about Android” and demonstrate Android on a “[o]ne-on-one only” basis. He instructed the employees to give demonstrations on a “one-on-one only” basis where the individual “know[s] exactly who . . . [he/she is] . . . talking to.” He explicitly directed them not to “demonstrate to any sun employees or lawyers.”	March 24, 2008
GOOGLE-00408577 – GOOGLE-00408578 (TX 104)	A Google “Buganizer” entry list that Issue 1168987 is to “[r]emove j-word from everywhere.” The notes to the entry state: “The problem is that we can’t just find and replace java with dalvik. This has no functional impact but we need to make a call in terms of what extent we need to do this. Need feedback from arubin, hiroshi, and some combination of lawyers.”	May 12, 2008
GOOGLE-02-00302636	Ryan Gibson of Google wrote an internal Google email to Dan Bornstein, among others, noting that Dan had “stripped” “dirty words like ‘Java’ and ‘J2ME’ before SDK release.”	October 7, 2008
GOOGLE-02-00038403 – GOOGLE-02-00038404 (TX 1029)	Tim Lindholm wrote an internal Google email about discussions with Sun about a partnership or support agreement. He stated that he wanted to avoid “inadvertently stir[ring] anything up for Android” and opined that Google should “step away” from the negotiating table with Sun “and only respond further if Sun chases after us.”	April 29, 2009
GOOGLE-17-00067006 – GOOGLE-17-00067007	Dan Morrill of Google sent an internal Google email discussing results of word search on Android code for the purposes of cleaning up that code. That word search included, “for obvious reasons: sun oracle* orcl Java jvm jdk jre Jcp jsr patent*” Dan Morrill stated: “Honestly I don’t think we can’t not scan for these. These represent ~50% of the total hits, so perhaps we can spotcheck this set, as we discussed.”	September 28, 2010
GOOGLE-02-00219047 (TX 269)	A group of Google employees sent various emails discussing scanning the Android code for references to “bad words” and finding that “biggest offenders are Java, License and Patent.”	October 26 – November 11, 2010